

A systematic review and meta-analysis of the prevalence of prescription opioid dependence and opioid use disorder in patients with chronic non cancer pain (CNCP) treated with opioid painkillers

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What is the problem?

- Progressive increase in opioid prescribing for chronic (>3 months) non-cancer pain from 1990s to early 2010s.
- Lack of evidence of effectiveness
- Long term use → problematic opioid use (dependence and opioid use disorder), deaths
- Variable rates of incidence and prevalence rates reported

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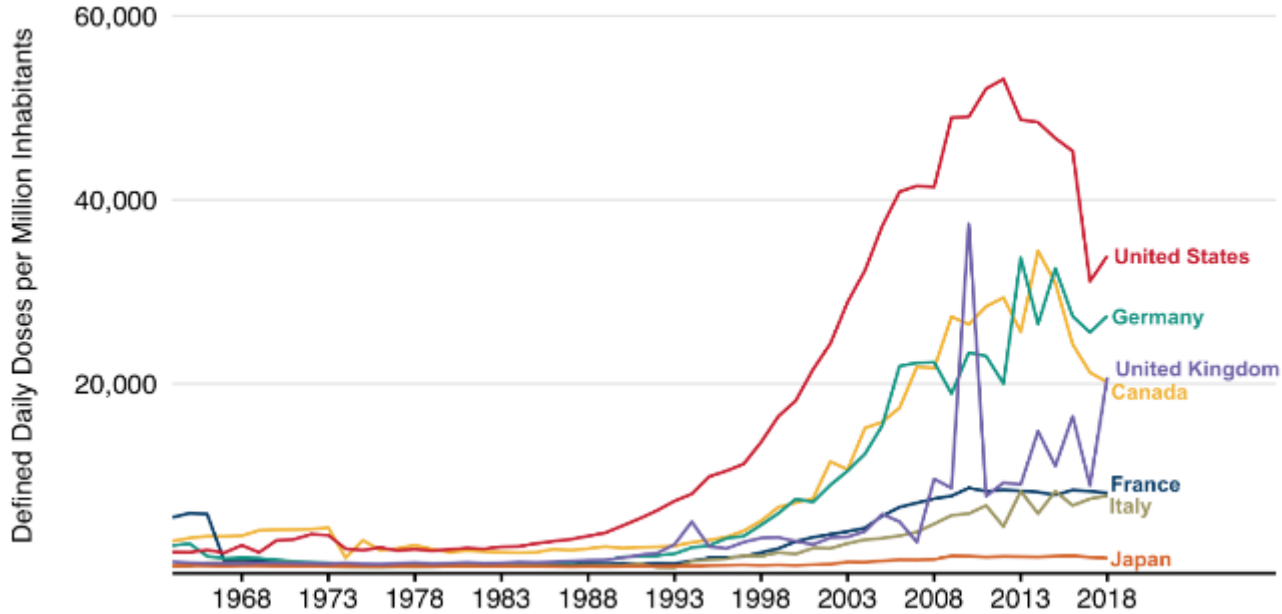
'Unnecessary' painkillers could leave thousands addicted, doctors warn

Prescriptions for powerful opioid painkillers have doubled from 12m to 24m in past decade, NHS Digital figures reveal

● [Prescription pain killers: share your stories with us](#)

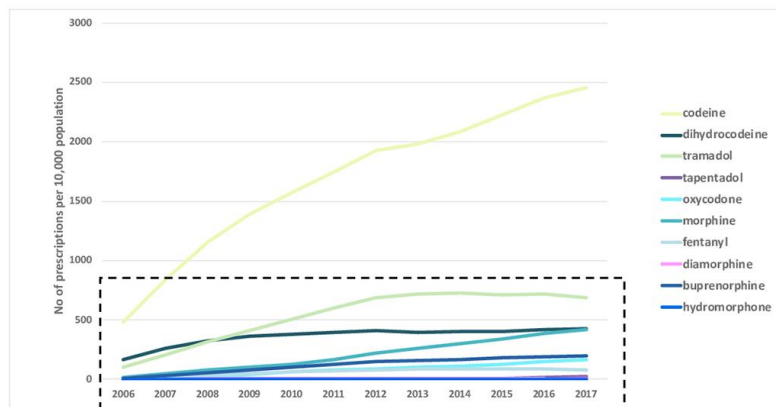


Total Opioid Consumption for G-7 countries 1964-2018

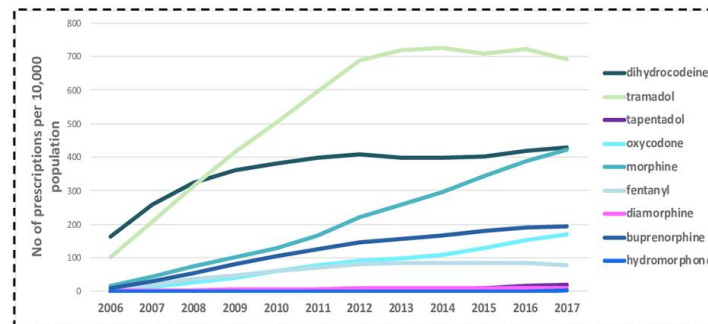


Opioid utilisation for non cancer pain in the UK Clinical Practice Research Datalink by individual opioid

1A



1B



Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
n (patients)	248,874	354,210	427,342	477,681	506,390	525,831	543,033	530,663	496,004	437,087	352,985	295,420

Project aim

- To assess the prevalence of problematic opioid use (dependence and opioid use disorder) in chronic non cancer pain patients treated with opioid painkillers.

Methods- Searches, inclusion & exclusion criteria



Search strategy

- Searches carried out using MEDLINE, Embase, PsycINFO and Ovid from inception to 27th Jan 2021.
- Cited reference searches of selected and key articles were also searched

Included

- Studies of adults and children 12 years and over
- Patients with a diagnosis of chronic non cancer pain treated with or prescribed opioid painkillers (≥ 3 months)

Excluded

- Studies which focused solely on use of illicit opioids or non medical use of opioid painkillers.
- Cancer patients

Methods- Settings

▪ Settings

Data were collected from a range of different settings including

- Primary care
- Pain clinics and other outpatient clinics
- Emergency Departments
- Prescription Databases
- Toxicology Databases
- Patient registries

Methods- Main outcome

DSM-5 Opioid Use Disorder

- Taking the opioid in larger amounts and for longer than intended
- Wanting to cut down or quit but not being able to do it
- Spending a lot of time obtaining the opioid
- Craving or a strong desire to use opioids
- Repeatedly unable to carry out major obligations at work, school, or home due to opioid
- Continued use despite persistent or recurring social or interpersonal problems caused or made worse by opioid use
- Stopping or reducing important social, occupational, or recreational activities due to opioid
- Recurrent use of opioids in physically hazardous situations
- Consistent use of opioids despite acknowledgment of persistent or recurrent physical or psychological difficulties from using opioids
- *Tolerance as defined by either a need for markedly increased amounts to achieve intoxication or desired effect or markedly diminished effect with continued use of the same amount. (Does not apply for diminished effect when used appropriately under medical supervision)
- *Withdrawal manifesting as either characteristic syndrome or the substance is used to avoid withdrawal (Does not apply when used appropriately under medical supervision)

Mild = 2-3 criteria; Moderate = 4-5 criteria; Severe = 6+ criteria

- The main outcome was **dependence and opioid use disorder**.
- This was defined using **International Classification of Diseases (ICD)** or the **Diagnostic and Statistical Manual of Mental Disorders (DSM)** diagnostic codes

Methods – Subgroup analyses

- Age
- Pain duration
- Sex
- Study design
- Method of assessment (Diagnostic classification codes used)
- Risk of bias and study quality



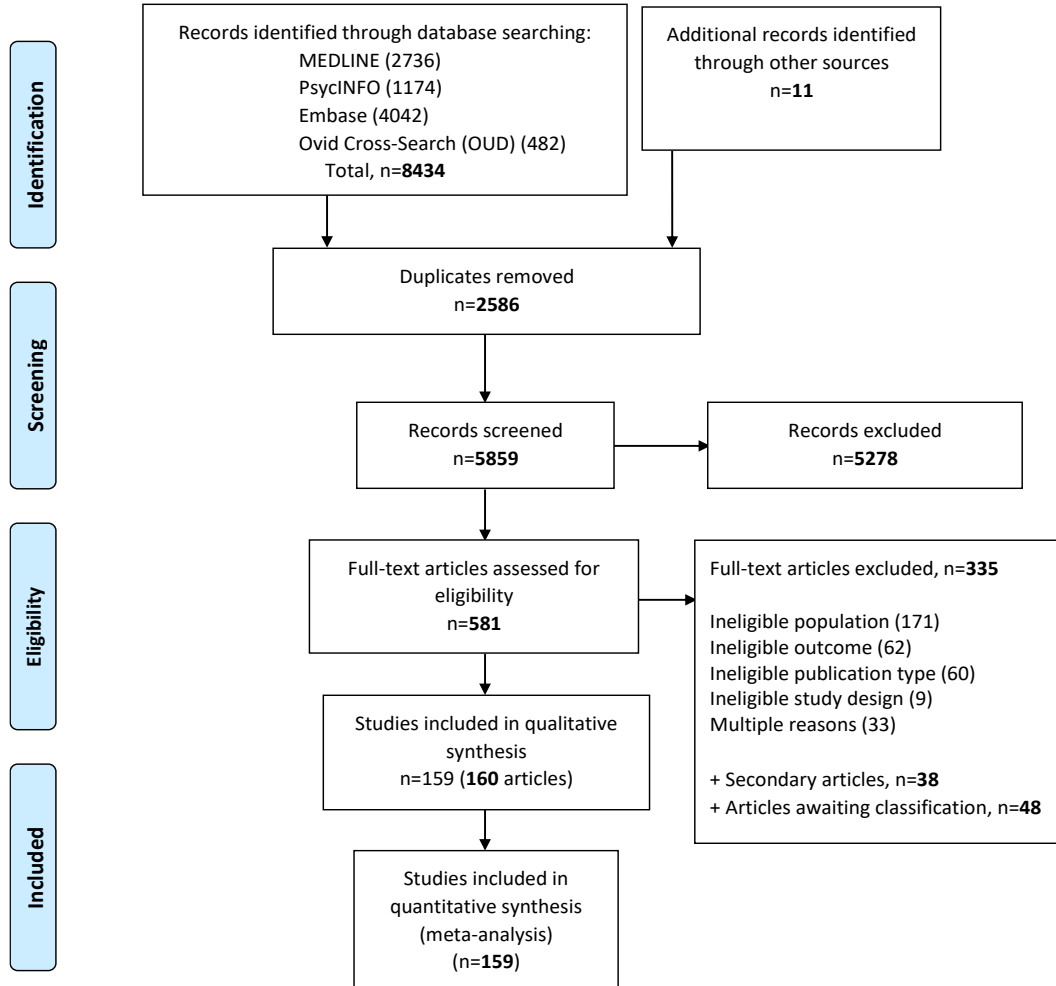
Assessment of study quality- Chou et al. (2009) criteria

Question	Answer
1. Does the study evaluate a consecutive clinical series of patients or a random subset?	<input type="text"/>
2. Does the study adequately describe symptom severity, underlying condition, and duration and doses of opioids (if prescribed)?	<input type="text"/>
3. Does the study adequately describe the instrument evaluated?	<input type="text"/>
4. Does the study include appropriate criteria in the instrument (must include prior history of addiction or substance abuse and at least one other psychosocial item)?	<input type="text"/>
5. Does the study adequately describe the method used to identify aberrant drug-related behaviors?	<input type="text"/>
6. Does the study use appropriate criterion to identify aberrant drug-related behaviors (uses either a validated questionnaire or urine drug screen plus other corroborating data [such as a questionnaire, prescription drug monitoring program, pill counts, family interview, etc]).	<input type="text"/>
7. Does the study evaluate outcomes or the reference standard in all patients enrolled (up to 10% loss considered acceptable)?	<input type="text"/>
8. Does the study evaluate outcomes blinded results of the screening instrument?	<input type="text"/>
General comment	Total
<input type="text"/>	<input type="text"/>

Assessment of risk of bias- Hoy et al. (2012) criteria

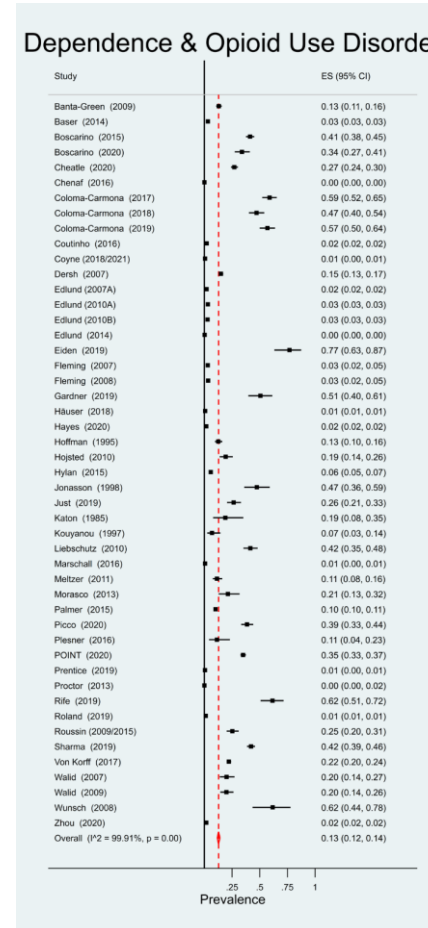
Question (Hoy)	Answer
1. Was the study's target population a close representation of the national population in relation to relevant variables?	<input type="text"/>
2. Was the sampling frame a true or close representation of the target population?	<input type="text"/>
3. Was some form of random selection used to select the sample, OR was a census undertaken?	<input type="text"/>
4. Was the likelihood of nonresponse bias minimal?	<input type="text"/>
5. Were data collected directly from the subjects (as opposed to a proxy)?	<input type="text"/>
6. Was an acceptable case definition used in the study?	<input type="text"/>
7. Was the study instrument that measured the parameter of interest shown to have validity and reliability?	<input type="text"/>
8. Was the same mode of data collection used for all subjects?	<input type="text"/>
9. Was the length of the shortest prevalence period for the parameter of interest appropriate?	<input type="text"/>
10. Were the numerator(s) and denominator(s) for the parameter of interest appropriate?	<input type="text"/>
	Total
11. Summary item on the overall risk of study bias	<input type="text"/>
General comment	
<input type="text"/>	

Results



Provisional Results – Prevalence rates

- 48 studies reported prevalence of dependence
- Prevalence rate for dependence and opioid use disorder was **13% (95% CI: 12%-14%)**



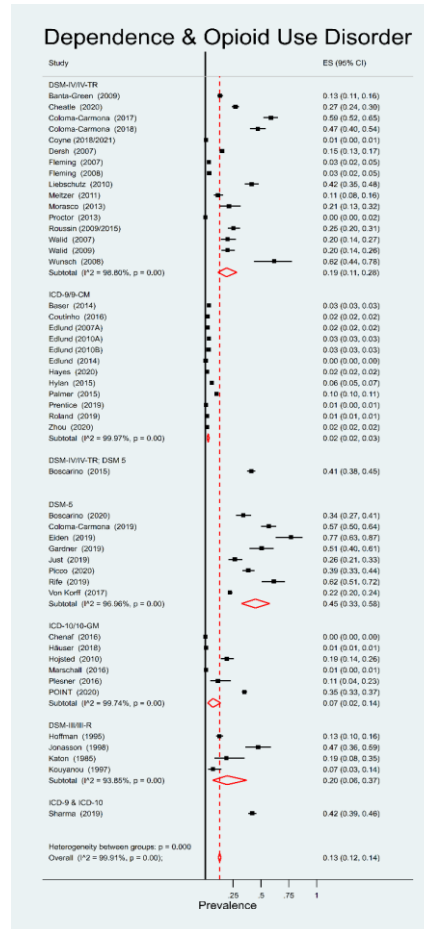
Provisional Results – Subgroup analyses

Subgroup analyses showed **lower rates** for the following groups:

- >60 years of age and age not specified
- North America
- Sex not specified
- Case control studies and database/registry studies
- When ICD diagnostic criteria used

Similar rates by:

- Risk of bias
- Quality
- Pain duration



Next steps

- Completion of meta-analyses for other prevalence outcomes including:
 - **Signs and symptoms** of opioid use disorder and dependence (not using diagnostic criteria) so for example using the Current Opioid Misuse Measure
 - **Aberrant behaviours**- studies which report multiple behaviours including doctor shopping, inappropriate urine drug tests etc, also use of Aberrant Behaviours Drug Index
 - At risk of dependence and opioid use disorder- so for example use of the Opioid Risk Tool to identify risk factors for opioid dependence

Conclusions

- Over **one in ten** chronic non cancer pain patients treated with opioid painkillers show dependence & opioid use disorder.
- Prevalence of dependence and opioid use disorder was impacted by **patient** and **study** characteristics.
- Effective strategies and interventions should continue to be implemented to prevent and treat problematic opioid use in chronic non cancer pain patients.



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Questions?